HeartSine samaritan® PAD
500P Trainer
model TRN-500-1
User Manual

HeartSine®

This User Manual provides instructions on how to operate the HeartSine PAD 500P Trainer.

The HeartSine PAD 500P Trainer is a non-medical device intended to be used for the training of emergency responders in the proper use of the HeartSine PAD 500P automated external defibrillator. The Trainer has no therapeutic capabilities and must not be used in real life rescue situations.

⚠️ **IMPORTANT**: *In order to avoid confusion in the event of a real life rescue, do not store or leave the Trainer near the HeartSine PAD automated external defibrillator.*

To allow quick and easy identification the HeartSine PAD 500P Trainer incorporates a yellow front user interface membrane whereas the HeartSine PAD 500P automated external defibrillator has a navy blue/black front membrane.

HeartSine recommends that responders who may use one of its defibrillators should be trained in Cardiopulmonary Resuscitation with defibrillator use (CPR-D). The HeartSine PAD 500P Trainer is intended to be used by approved CPR-D training providers for this purpose.

The HeartSine PAD 500P Trainer is factory configured to operate in accordance with the joint American Heart Association/European Resuscitation Council 2010 guidelines for CPR. The device comes with six preprogrammed scenarios based on these guidelines.

Should the CPR guidelines change, software will be available to upgrade the PAD 500P Trainer to comply. Please contact your HeartSine authorized distributor or HeartSine Technologies direct.

Once turned on the HeartSine PAD Trainer will play audible voice prompts with accompanying visual indicators. The PAD 500P Trainer may also be controlled using the accompanying Remote Control included with the device.

Please contact your authorized HeartSine distributor for a list of replacement accessories.

Preparing the HeartSine PAD 500P Trainer for use

1) Ensure that the HeartSine PAD 500P Trainer is fully charged (see the Charging section of this manual).

2) Place the HeartSine PAD 500P Trainer and the Trainer Pad-Pak on a flat surface. Push the Trainer Pad-Pak into the opening of the HeartSine PAD 500P Trainer and listen for a "click" sound to ensure that it is properly inserted.

3) Place the batteries supplied with your Trainer into the HeartSine PAD Remote Control.

☞ *Do not press any buttons whilst inserting the Remote Control batteries as this will reset the Remote Control ID.*

4) Press the On/Off button on the HeartSine PAD 500P Trainer and listen to the voice prompts to ensure that the unit is functioning.

5) If the HeartSine PAD 500P Trainer has insufficient charge, it will not function correctly. When switched on, the Status Indicator will flash red to indicate that charging is required. If the battery is fully depleted the device will not power on at all. For full charging instructions see the Charging section of this manual.

Turning on and off the HeartSine PAD 500P Trainer
To turn on the HeartSine PAD 500P Trainer press the green On/Off button.

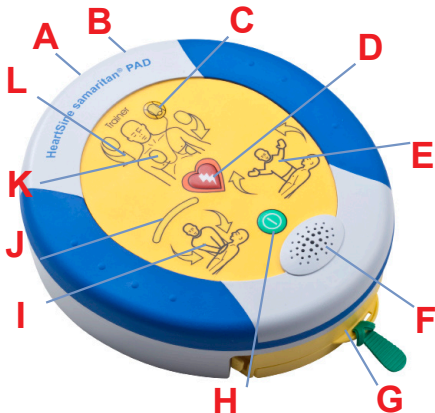☞ *By default the Trainer will function in the last scenario setting used.*

To turn off the HeartSine PAD 500P Trainer press the On/Off button again.

Once the HeartSine PAD 500P Trainer has been turned on, it may be turned off using the accompanying Remote Control. To turn the Trainer off press the Off button (red button) on the Remote Control.

☞ *When turned on the HeartSine PAD 500P Trainer will automatically turn Off after fifteen minutes if the device is not being used.*

PAD 500P Trainer

A **Data Port**
B **Battery Charge Status LED**
C **Status Indicator**
D **Shock Button**
E **Do Not Touch Indicator**
F **Speaker**
G **Pad-Pak Cartridge**
H **On/Off Button**
I **Safe To Touch Indicator**
J **CPR Indicator**
K **Pads Placement Indicator**
L **Action Arrows**

On/Off button
Press this button to turn the device on and off. (If pressed whilst a shock is advised, a warning is issued "Warning, Off button pressed"; the device will not power Off unless you press the button again within three seconds.)

Pads placement indicator
The action arrows around this icon will flash to instruct the user that the PAD 500P pads should be attached to the patient as indicated.

Safe to touch indicator
It is safe to touch the patient when the action arrows around this icon are flashing. You may perform CPR or check the patient.

Status Indicator
Flashing green - Trainer is ready for use
Flashing red - Trainer requires charging

Action arrows
The action arrows around an icon will flash to indicate the actions that the user should be performing.

Do not touch indicator
Do not touch the patient when the action arrows around this icon are flashing. The PAD 500P may be analyzing the patient's heart rhythm or preparing to deliver a shock.

Shock button
Press this button to simulate delivery of a therapeutic shock.

CPR indicator
This is an array of lights which provide a graduated indication of the force being applied during CPR compressions. When green lights illuminate the compressions are considered to be of adequate force.
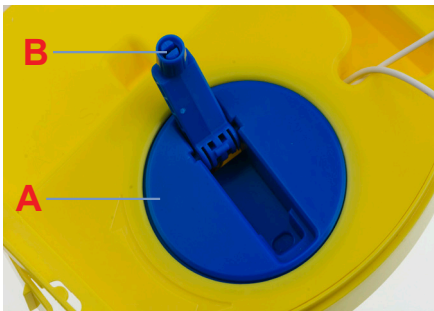
Using the Electrodes

The training scenarios include audible prompts to remove the electrodes from the Pad-Pak and to position the electrode pads as indicated. Follow the steps below when prompted to do so.

1) Pull the green tab to open the Trainer Pad-Pak cartridge and fully extend the electrode cables.

2) Peel the electrode pads from their protective liners.

3) Position the electrode pads as indicated by the Pads Placement Indicator; sternum and apex electrode pads are clearly identified on their respective pads.

4) Press the pads firmly to ensure that proper contact is made.
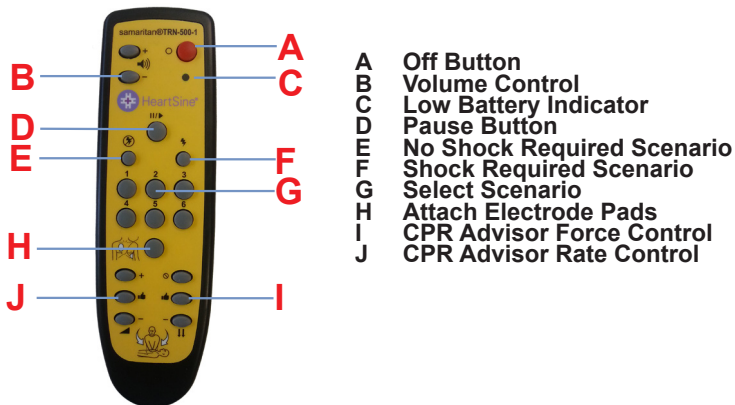
Rewinding the Electrodes after Use

1) Re-attach the protective liners to the electrode pads, or replace with new pads.

2) Fold the pads together so that the liner is on the outside.

3) Let the electrodes hang from the device and use the handle in the blue coil mechanism to fully rewind the electrodes:

A   Coil Mechanism
B   Coil Handle

4) Place the pads on top of the Pad-Pak cartridge, ensuring that the wires are beneath the pads.

5) Close the Pad-Pak cartridge by sliding the yellow tray into place.

PAD 500P Trainer Remote Control

A	**Off Button**
B	**Volume Control**
C	**Low Battery Indicator**
D	**Pause Button**
E	**No Shock Required Scenario**
F	**Shock Required Scenario**
G	**Select Scenario**
H	**Attach Electrode Pads**
I	**CPR Advisor Force Control**
J	**CPR Advisor Rate Control**

Turning off the Trainer
The Remote Control can be used to turn off the HeartSine PAD 500P Trainer. To turn the Trainer off press the red button on the Remote Control.

Changing the Volume
There are four volume settings available on the HeartSine PAD 500P Trainer. The volume control buttons are to the left of the Off button on the Remote Control. To increase the volume press the '+' button and to decrease the volume press the '-' button.

Pausing the Trainer
During training the HeartSine PAD 500P Trainer may be paused. To pause the Trainer press the Pause button (||/▶). The Trainer will remain paused until the Pause button is pressed again at which point it will continue to play the scenario selected.

Changing the Scenario
The HeartSine PAD 500P Trainer comes with six preprogrammed training scenarios. (For details of the scenarios see the training scenarios section of this manual.) The scenario may be changed by pressing the appropriate number button on the Remote Control i.e. pressing '3' will select training scenario three.

Once the scenario has been changed the device will operate as detailed in the scenarios section. The device will remain in this scenario until a new scenario is selected.

Preprogrammed Training Scenarios

The HeartSine PAD Trainer has six preprogrammed training scenarios to choose from. All preprogrammed scenarios are based on AHA/ERC 2010 guidelines. Details of the preprogrammed scenarios are given below.

Scenario 1
1. Setup mode - "Call for Medical assistance", "Pull green tab", etc
2. User intervention - "Pads" button to be pressed to confirm electrodes placed
3. Monitor mode - "Assessing heart rhythm", "Do not touch the patient", etc
4. Shock advised - User to press the shock button
5. CPR mode - User to apply CPR with advisory as required
6. Monitor mode - "Assessing heart rhythm", "Do not touch the patient", etc
7. No shock advised
8. CPR mode - User to apply CPR with advisory as required
9. Repeat - Steps 6 to 8 repeated until 'On/Off' button is pressed

Scenario 2
1. Setup mode - "Call for Medical assistance", "Pull green tab", etc
2. User intervention - "Pads" button to be pressed to confirm electrodes placed
3. Monitor mode - "Assessing heart rhythm", "Do not touch the patient", etc
4. No shock advised
5. CPR mode - User to apply CPR with advisory as required
6. Monitor mode - "Assessing heart rhythm", "Do not touch the patient", etc
7. Shock advised - User to press the shock button
8. CPR mode - User to apply CPR with advisory as required
9. Repeat - Steps 6 to 8 repeated until 'On/Off' button is pressed

Scenario 3
1. Electrodes - Device assumes the electrodes are already attached
2. Monitor mode - "Assessing heart rhythm", "Do not touch the patient", etc
3. Check Pads - "Check Pads"
4. User intervention - "Pads" button to be pressed to confirm electrodes placed
5. Monitor mode - "Assessing heart rhythm", "Do not touch the patient", etc
6. Shock advised - User to press the shock button
7. CPR mode - User to apply CPR with advisory as required
8. Monitor mode - "Assessing heart rhythm", "Do not touch the patient", etc
9. No shock advised
10. CPR mode - User to apply CPR with advisory as required
11. Repeat - Steps 3 to 10 repeated until 'On/Off' button is pressed

Scenario 4
1. Electrodes - Device assumes electrodes are already attached
2. Monitor mode - "Assessing heart rhythm", "Do not touch the patient", etc
3. Shock advised - User to press the shock button
4. CPR mode - User to apply CPR with advisory as required
5. Monitor mode - "Assessing heart rhythm", "Do not touch the patient", etc
6. Shock advised - User to press the shock button
7. CPR mode - User to apply CPR with advisory as required
8. Monitor mode - "Assessing heart rhythm", "Do not touch the patient", etc
9. No shock advised
10. CPR mode - User to apply CPR with advisory as required
11. Repeat - Steps 5 to 10 repeated until 'On/Off' button is pressed

Scenario 5

Scenario 5 is the same as Scenario 1 with the addition of audible indications of when to perform rescue breaths during CPR mode.

1.	Setup mode	-	"Call for Medical assistance", "Pull green tab", etc
2.	User intervention	-	"Pads" button to be pressed to confirm electrodes placed
3.	Monitor mode	-	"Assessing heart rhythm", "Do not touch the patient", etc
4.	Shock advised	-	User to press the shock button
5.	CPR mode	-	User to apply CPR with advisory as required; this includes an audible indication of when to perform rescue breaths - the metronome changes from a "beep" to a "tick" for the duration of ten compressions.
6.	Monitor mode	-	"Assessing heart rhythm", "Do not touch the patient", etc
7.	No shock advised		
8.	CPR mode	-	User to apply CPR with advisory as required; this includes an audible indication of when to perform rescue breaths - the metronome changes from a "beep" to a "tick" for the duration of ten compressions.
9.	Repeat	-	Steps 6 to 8 repeated until 'On/Off' button is pressed

Scenario 6

Scenario 6 is the same as Scenario 2 with the addition of audible indications of when to perform rescue breaths during CPR mode.

1.	Setup mode	-	"Call for Medical assistance", "Pull green tab", etc
2.	User intervention	-	"Pads" button to be pressed to confirm electrodes placed
3.	Monitor mode	-	"Assessing heart rhythm", "Do not touch the patient", etc
4.	No shock advised		
5.	CPR mode	-	User to apply CPR with advisory as required; this includes an audible indication of when to perform rescue breaths - the metronome changes from a "beep" to a "tick" for the duration of ten compressions.
6.	Monitor mode	-	"Assessing heart rhythm", "Do not touch the patient", etc
7.	Shock advised	-	User to press the shock button
8.	CPR mode	-	User to apply CPR with advisory as required; this includes an audible indication of when to perform rescue breaths - the metronome changes from a "beep" to a "tick" for the duration of ten compressions.
9.	Repeat	-	Steps 6 to 8 repeated until 'On/Off' button is pressed

The Remote Control allows Training providers to control the scenario manually. When turned on the HeartSine PAD 500P Trainer will operate as detailed in the training scenarios listed. Training providers can override this by pressing the 'Shock required', 'No Shock required' or 'Attach Electrode Pads' button.

Shock Required
Pressing the 'Shock required' button will cause the HeartSine PAD 500P Trainer to override the selected training scenario and simulate a shockable rhythm. Each subsequent analysis period will advise a shock to be delivered until either the Trainer is turned off or the 'No Shock required' button on the Remote Control is pressed.

No Shock Required
Pressing the 'No Shock required' button will cause the HeartSine PAD 500P Trainer to override the selected training scenario and simulate a non-shockable rhythm. Each subsequent analysis period will advise no shock to be delivered until either the Trainer is turned off or the 'Shock required' button on the Remote Control is pressed.

Attach Electrode Pads
If the 'Attach Electrode Pads' button is pressed the Trainer will play the 'Attach the electrodes' prompts during the analysis period of operation. The Trainer will continue to play 'Attach the electrodes' prompts until the 'Attach Electrode Pads' button is pressed again.

HeartSine samaritan PAD with CPR Advisor model 500P
The HeartSine PAD 500P automated external defibrillator incorporates a CPR feedback module called 'CPR Advisor'. The HeartSine PAD 500P uses the CPR Advisor function to provide simple feedback on the quality of the CPR being provided by rescuers. If appropriate the rescuer will be prompted to push harder until the compressions being provided are of sufficient force.

If the compressions are considered to be of sufficient force the CPR Advisor will then analyze the rate that compressions are being performed. The rescuer will be prompted to push faster or slower as appropriate.

If the CPR being provided is of sufficient force and rate the HeartSine PAD 500P will play a 'Good compressions' prompt.

All audible prompts are accompanied by visual prompts on the CPR indicator icon.

CPR Advisor Training
Training providers can simulate the CPR Advisor function on the HeartSine PAD 500P Trainer by using the Remote Control. Training providers should observe the CPR being provided by the rescuers being trained and based on observations press the appropriate button.

The HeartSine PAD 500P Trainer will initially assume correct compressions are being performed and play the audible prompt:
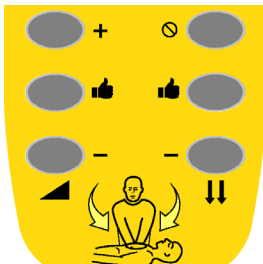
◀ *"Good Compressions"*

The CPR control buttons are at the bottom of the Remote Control. The buttons to the left are used to indicate the rate at which the trainee is performing compressions and the buttons to the right are used to indicate the force at which compressions are being delivered.

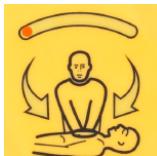| **Compression Rate**		**Compression Force**
Fast Compressions	+ ⊘	Begin CPR / No Compressions
Correct Rate	👍 👍	Good Force
Slow Compressions	− −	Insufficient Force

Compression Force
The HeartSine PAD 500P Trainer can mimic the CPR Advisor function on the HeartSine PAD 500P defibrillator.

CPR not started
If the trainee has not started to perform CPR press the 'No compressions' button. The HeartSine PAD 500P Trainer will play the audible prompt:

◀ *"Push Harder, Push Harder, Begin CPR"*

The 'CPR indicator' on the HeartSine PAD 500P Trainer has a single flashing orange light as shown. The trainee should begin CPR immediately.

Compressions not Hard Enough
If the trainee has started to perform CPR but they are of insufficient force, press the Insufficient Force button. The HeartSine PAD 500P Trainer will play the audible prompt:

"Push Harder"

The 'CPR indicator' on the HeartSine PAD 500P Trainer will flash yellow as shown. The trainee should be prompted to push harder.

Good Compression Force
If the trainee is performing compressions of sufficient depth press the 'Good Force' button. The CPR indicator icon will now flash all lights (yellow and green) as shown.

The HeartSine PAD 500P Trainer will no longer issue messages referring to the force with which the compressions are being given:

"Good Compressions"

Compression Rate
The HeartSine PAD 500P Trainer can mimic the CPR Advisor function on the HeartSine PAD 500P defibrillator. The following are instructions on how to simulate rate of compressions.

Compressions Too Slow
If the trainee is performing compressions too slowly press the 'Slow Compressions' button. The HeartSine PAD 500P Trainer will play the prompt:

"Push Faster"

Compressions Too Fast
If the trainee is performing compressions too quickly press the 'Fast Compressions' button. The HeartSine PAD 500P Trainer will play the prompt:

"Push Slower"

Compressions Correct Rate
If the trainee is performing compressions at the correct rate press the 'Correct Rate' button. The HeartSine PAD 500P Trainer will play the good compressions prompt.

HeartSine PAD 500P Trainer Battery Management

The HeartSine PAD 500P Trainer contains a rechargeable battery. It is recommended that you ensure the HeartSine PAD 500P Trainer is fully charged prior to commencing training activities.

When fully charged the HeartSine PAD 500P Trainer will give you approximately seven hours of usage before it needs to be recharged.

The HeartSine PAD 500P Trainer will monitor the capacity of the battery as it approaches depletion. A minimum of one hour prior to the battery becoming depleted the Trainer will play the following message:

🔊   "Warning. Low battery"

If this warning is heard you may continue to use your HeartSine PAD 500P Trainer for a limited period of time. If the battery becomes completely depleted the Trainer device will shut itself down. At this point the Trainer should be recharged.

Charging and Recharging the HeartSine PAD 500P Trainer

To safely charge or recharge the HeartSine PAD 500P Trainer follow the instructions given below.

1) Insert the charger adaptor into the socket on the side of the HeartSine PAD 500P Trainer. Ensure that the adaptor is fully inserted.
2) Plug the charger into the mains electricity supply.

3) Leave the Trainer to charge. The Battery Charge Status LED (located beside the socket) will be red when fast charging and will flash when charging is almost complete. Once charging is complete the LED will switch off. To charge a depleted HeartSine PAD 500P Trainer will take a maximum of six hours.

4) Remove the adaptor from the HeartSine PAD 500P Trainer. Turn on the Trainer to ensure that the device is working.

If the HeartSine PAD 500P Trainer is switched on during charging the charger should be switched off then on again to restart fast charging.

The HeartSine PAD 500P Trainer must only be charged with the charger supplied with it. Use of any other charging device will nullify the warranty and may result in damage to the HeartSine PAD 500P Trainer.

The HeartSine PAD 500P Trainer and charger are designed for indoor use only. Do not use in wet or damp environments.

There are no user serviceable parts inside your HeartSine PAD 500P Trainer, Trainer Pad-Pak or charger. These products should not be opened. In the unlikely event of a malfunction, please contact your distributor immediately.

Remote Control Batteries
The HeartSine PAD 500P Trainer Remote Control contains a low battery warning indicator. If this indicator flashes red two times after a button on the Remote Control is pressed it is an indication that the batteries within the Remote Control need to be replaced.

The Remote Control uses two standard AAA batteries.

The batteries can be accessed by removing the battery cover at the back of the Remote Control.

☞ Inserting the batteries into the Remote Control whilst pressing the Off button will cause the Remote Control to enter pairing mode and take a new transmission ID. This will be different to that previously stored on the Trainer. If this occurs accidentally it will be necessary to complete the pairing procedure in full to pair the Remote Control with the HeartSine PAD 500P Trainer again. Normal battery replacement does not cause a problem since pairing is only initiated when the Off button is also held down.

HeartSine PAD 500P Trainer Configuration Tool
The HeartSine PAD 500P Trainer configuration tool is software that can be downloaded for free from the HeartSine website (www.heartsine.com). This software allows you to upgrade your Trainer. The following options are available.

Language
The HeartSine PAD 500P Trainer can be reprogrammed to operate with audible prompts in any one of a selection of languages. Download the current HeartSine PAD 500P Trainer configuration tool user manual from the HeartSine website for instructions on how to do this.

Pairing a Remote Control with the HeartSine PAD 500P Trainer
Each HeartSine PAD 500P Trainer has a specific Remote Control to operate it. This is to allow multiple devices to be used in close vicinity without interference. In the unlikely event that your Remote Control no longer operates with your Trainer it may need to be paired with your Trainer again.

The HeartSine PAD 500P Trainer Configuration Tool can be used to pair a Remote Control with your Trainer. Full instructions are contained within the accompanying user manual.

Device Identifications
Each HeartSine PAD 500P Trainer is given an identification number between 001 and 255 during manufacture. The Remote Control for each Trainer is then given the same identification number. In the unlikely event that two devices with the same ID number are being used at the same time use the HeartSine PAD 500P Trainer Configuration Tool to assign new numbers to the devices. It will be necessary to pair the device with its Remote Control after assigning a new ID number.

CPR Guidelines 2010

The following is a brief overview of the fundamentals of CPR for lay rescuers as advised by both the American Heart Association (AHA) and the European Resuscitation Council (ERC) in their 2010 published Guidelines for CPR and ECC. This is intended only as a quick reference for trained CPR providers. HeartSine recommend that all potential users of the PAD 500P are trained by a competent training organization in both the use of CPR and PAD 500P, prior to placing a PAD 500P into service. Should the Guidelines change, software will be available to upgrade the PAD 500P to comply. Please contact your HeartSine authorized distributor or HeartSine Technologies direct.

CALL Emergency Services
(999/911/112 etc) Send for an AED

Person not responsive?
Address person and shake on shoulder
Call Emergency Services

Watch, feel, listen

Open the airway, check for breathing

Perform CPR. Follow the latest AHA or ERC guidelines

Perform CPR until an AED is available OR arrival of emergency physician
Engage other people to help you and alternate CPR

If AED is available switch on and follow instructions - AED assesses rhythm

If available use an AED

SHOCK ADVISED

NO SHOCK ADVISED

Continue CPR until Emergency Services arrive. Alternate with second person after one cycle or 2 minutes

DELIVER SHOCK

Continue CPR for 2 minutes

Continue CPR for 2 minutes

Continue until the patient starts to wake up, i.e. moves, opens eyes and breathes normally

Disposal Instructions

The HeartSine PAD 500P Trainer is a reusable device. If maintained in accordance with the instructions in this manual it has a warranty period of two years from the date of manufacture. The year of manufacture of the device is indicated by the first two digits of the serial number.

If you wish to dispose of the PAD 500P Trainer unit, it should be disposed of at an appropriate recycling facility according to national, state and local requirements. Alternatively return the unit to your local distributor or HeartSine Technologies for disposal.

Disposal within the European Union:

Do not dispose of the PAD 500P Trainer unit as unsorted municipal waste: keep the PAD 500P Trainer separate, to be reused or recycled in accordance with Directive 2002/96/EEC of the European Parliament and the Council of the European Union on Waste Electronic and Electrical Equipment (WEEE), or return to your local distributor or HeartSine Technologies for disposal.

Warranty Exclusion

HeartSine Technologies or the authorized distributors are not obliged to carry out service/repairs under warranty if:

a. Unauthorized modifications have been made to the device.

b. Non-standard components are used.

c. The user has not used the device in accordance with the indications for use or the instructions provided in this manual.

d. The serial number of the apparatus is removed, defaced, misused or altered.

e. The device, electrodes or batteries are stored or used operationally outside of environmental specifications.

f. The device has been tested using unapproved methods or inappropriate equipment (see the Maintenance section of this manual).

Any claims made under warranty must be directed via your distributor from whom the device was originally purchased. Before carrying out service under warranty, HeartSine Technologies require evidence of purchase. The product must be used in accordance with the User Manual and for the purpose for which it was intended. If you have a query please contact support@heartsine.com for assistance.

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